Bryan, Joseph (DEQ)

From: Trieste Lockwood <trieste@vcnva.org>
Sent: Thursday, July 21, 2016 2:50 PM
To: Chesterfield Power Station Water Permit (DEQ)
Subject: Chesterfield Comments
Attachments: 7.21.16 Final Chesterfield Permit comments.pdf

Dear Mr. Bryan,

Please accept the attached comments on behalf of VCN and partners. Thank you in advance for your consideration. Best of luck with your work on this permit.

Sincerely,

Trieste

Trieste Lockwood
Policy and Campaigns Manager
Virginia Conservation Network
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VIRGINIA CONSERVATION NETWORK

July 21, 2016

Joseph Bryan
Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Rd.
Glen Allen, VA 23060

RE: Comments on draft VPDES Permit No. VA0004146 for Dominion – Chesterfield Power Station

Dear Mr. Bryan,

Please accept these comments on behalf of the Virginia Conservation Network (VCN) and its network partners, the National Parks Conservation Association, Virginia League of Conservation Voters, Wetlands Watch, Environment Virginia, Virginia Eastern Shorekeeper, Chesapeake Climate Action Network, Moms Clean Air Force VA, the Virginia Chapter of the Sierra Club, and the American Canoe Association, regarding the reissuance of the Virginia Pollutant Discharge Elimination System Permit (VPDES) No. VA0004146 (Chesterfield Permit). We respectfully request that the Virginia Department of Environmental Quality (DEQ) revise the permit to address its flaws before Virginia Electric and Power Company (Dominion) is authorized to discharge coal ash wastewater into the James River from the Dominion Chesterfield Power Station (Chesterfield Power Station).

Thank you for accepting our comments regarding this permit. Please see our main points and permit revision requests below.

1) The permit must require more stringent pollutant treatment and eliminate the "mixing zone."

A) Pollution Treatment

The Clean Water Act (CWA) and the Virginia Antidegradation Policy (Antidegradation Policy) have put standards in place to protect water quality, and they are applicable to the Chesterfield Permit.[1] The CWA mandates that "such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds . . . that such elimination is technologically and economically achievable."[2] The CWA does not require a "mixing zone." The DEQ may, and should, require better standards of treatment using the best technology available in the Chesterfield Permit prior to discharge.

[1] 33 U.S.C. § 1311; 9VAC25-260-30.
[2] 33 U.S.C. § 1311(b)(2)(A).

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According to federal regulations, these technology-based treatment standards are to be decided by the DEQ on a case-by-case basis.[3] Using its best professional judgment, the DEQ must impose technology-based effluent limitations as the minimum pollution limits in discharge permits. Therefore, we respectfully request that the DEQ's permit include more stringent concentration technology-based standards prior to discharge and at all times.

Though improvements are seen in the Chesterfield Permit compared to others in Virginia, it can be strengthened further. For example, the Chesterfield Permit allows for an arsenic monthly average discharge of 240 ug/L and 440 ug/L daily maximum during dewatering from outfall 101.[4] Virginia public water supply's arsenic standard is 10 ug/L to protect human health, and the standard to protect aquatic life is 150 ug/L. Even if the receiving body of water is not a public water source, the arsenic limit in this permit could be lowered to be no greater then 10 ug/L. We encourage the more stringent limits in this draft permit to remain low at all times. The DEQ should ensure that the final permit's concentration limits meet state public health standards or, at a minimum, meet the lowest standards agreed upon in similar dewatering permits.

B) Mixing Zone

As mentioned above, the wastewater can be treated prior to discharge. Water quality would not be preserved during dewatering in the proposed "mixing zone." A "mixing zone" is a defined by state law as a "limited area or volume of water where initial dilution of a discharge takes place and where numeric water quality criteria can be exceeded but designated uses in the water body on the whole are maintained and lethality is prevented."[5] The permit's allowable dilution levels and "mixing zone" threaten water quality pursuant to the Antidegradation Policy, and the DEQ is authorized to require full treatment of the water prior to discharge negating the need for a "mixing zone."

The James River is a Tier 1 waterway and the Antidegradation Policy is in place to ensure strong water quality protection, unless lowering "water quality is necessary to accommodate important economic or social development in the area."[6] Even if water quality is lowered, it may not be degraded to the point of impacting existing water uses. In this case, important economic or social development has not been demonstrated in the river's area in order to adequately justify the lowering of its water quality for a "mixing zone." Virginia's water quality standards state that a "mixing zone" should not "be used for, or considered as, a substitute for minimum treatment technology required by the Clean Water Act and other applicable state and federal laws."[7] Therefore it would be prudent for the DEQ's pollutant concentration limits, which are dependent on the dilution

[3] 40 CFR 125(c)(3).
[4] Virginia Electric Power Company, Dominion Chesterfield Power Station, Permit No. VA0004146 (hereinafter "Chesterfield Permit"), p. 3.
[5] 9VAC25-260-5.
[6] 9VAC25-260-30.
[7] 9VAC25-260-20(B)(7).

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limits, to be more stringent and not act as a "substitute" for available wastewater treatment.

2) The permit must include more stringent drawdown requirements, and abide by the new Effluent Limit Standards and Guidelines as soon as possible.

A) Drawdown

Enhanced treatment "triggers" are designed and intended to ensure water discharged during drawdown meets water quality standards at the point of discharge, and this permit should reflect enhanced treatment agreed to by the utility. The drawdown limits for the Bremo, Possum Point, and Chesapeake Power Station permits were set at six inches per day, while the Chesterfield Permit pond closure rate is set at two feet per day.[8] Drawdown that occurs too rapidly may harm the integrity of the coal ash impoundment and cause dam failure and pollution. Therefore, we request that the drawdown occur at a slower rate and be no greater than the drawdown at other coal ash sites in Virginia.

B) The New Effluent Limit Guidelines and Standards

The Effluent Limitations Guidelines and Standards for the Steam Electric Generating Industry (ELG Rule) will apply to the Chesterfield Power Station.[9] The ELG Rule will require best available technology to be applied to the flue gas desulfurization waste stream, and compliance can be met through a variety of methods.[10] Dominion proposes to comply with the ELG Rule in 2022.[11] Additional treatment technologies could be fully incorporated and applied sooner, and at a minimum, the technologies could begin to be implemented in years prior to 2022. We respectfully request that this rule's new wastewater limits are complied with as soon as possible at the Chesterfield Power Station, and not delayed for eight years. Dominion proposes semi-annual reporting on its progress towards compliance, and we urge this reporting to be required to take place as frequently as possible in order to keep DEQ thoroughly informed of Dominion's progress towards ELG Rule compliance.[12]

3) The permit must include more frequent heavy metal monitoring and toxicity testing.

A) Heavy Metal Monitoring

More frequent monitoring of heavy metals will ensure water quality protection. Monitoring could take place daily or three times a week, instead of monthly, for more of

[8] Chesterfield Permit, p. 26.
[9] 40 CFR 423.13.
[10] Fact Sheet Dominion Power Attachments (heareinafter "Fact Sheet Attachments"), p. 353.
[11] Fact Sheet Attachments, p. 353.
[12] Fact Sheet Attachments, p. 353.

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the metals. For example, the Clinch River Permit was revised to include greater frequency of monitoring for aluminum, barium, beryllium, boron, cobalt, molybdenum and vanadium.[13] Now these metals are going to be tested three times a week instead of one time a month, as these were the metals with numeric criteria and effluent levels that called for more monitoring in the Clinch River Permit. These same heavy metals in the Chesterfield Permit are listed as being monitored one time a month, and we respectfully request that these and any other appropriate heavy metals be monitored three times a week as well.[14]

B) Whole Effluent Toxicity Testing

The Whole Effluent Toxicity (WET) testing, which is different than the heavy metal testing, is essential to protecting the diverse aquatic and protected species. It would be prudent for the Chesterfield Permit to require more frequent testing and monitoring.[15] This permit could require WET testing 3 times a week, including a test on the first day of dewatering periods in order to check the toxicity levels before the majority of the water is discharged into the river.[16] Frequent reporting after toxicity testing of local aquatic species would help prevent excessive heavy metal levels from causing further damage to protected species, and such improvements have been made in other dewatering permits. For example, the Clinch River Permit has been modified to include more WET testing with "...monitoring frequency [changing from] from monthly to once during the first week of dewatering, once during the second week of dewatering, and monthly thereafter."[17] The Clinch River DEQ Memorandum states that the "modification [of WET testing] will allow for earlier assessment of potential toxicity of the discharge associated with the dewatering operation," and we encourage the DEQ to include similar changes in this permit as well.[18] The Chesterfield Fact Sheet with attachments states that there have been excessive levels of "mercury and arsenic in fish tissue" in the past, and this permit could preempt such problems by increasing WET testing frequency and reporting.[19]

4) The permit must be revised to ensure better safeguards are in place to monitor and protect aquatic species, such as the Atlantic sturgeon, pursuant to the Clean Water Act.

A) Protected Species

The Atlantic sturgeon fish populations are listed as endangered and threatened,

[13] Memorandum on Reissuance of VPDES Permit No. VA0001015, Appalachian Power Company – Clinch River Plant, Russell County (hearinafter "Clinch River Memorandum"), p. 1 of Attachment A.
[14] Chesterfield Permit, p. 2-4.
[15] Chesterfield Permit, p. 31.
[16] *See also,* Fact Sheet Attachments, p. 891-931 (describing WET Data Review).
[17] Clinch River Memorandum, p. 2.
[18] Clinch River Memorandum, p. 10.
[19] Fact Sheet Attachments, p. 6.

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and are present in the James River.[20] The federally listed sturgeon species is critically and historically low in the Chesapeake Bay region due to habitat loss, overfishing, threats to species recovery, and other factors.[21] The National Marine Fisheries Service has proposed a draft rule designating critical habitats for this species, which demonstrates its importance and highlights the need to protect this waterway in order to conserve the species.[22] Though it was listed as a federally endangered species in 2012, recent published research shows that there are small populations returning to spawn in the James River. These spawns help negate the risk of extinction. The presence of this federally protected species calls for higher scrutiny in this permit. The DEQ should ensure that the best available technology is used for each level of water treatment in order to protect aquatic life. Additionally, a habitat conservation plan should be required and addressed in the permit to alleviate concerns about threats to this species.

B) Clean Water Act Section 316(a) and Section 316(b)

The Clean Water Act Section 316(a) (Section 316(a)) variance should be reevaluated to ensure that the thermal discharge does not cause harm to the aquatic species surrounding the Chesterfield Power Station.[23] Section 316(a) allows for more stringent thermal discharge limitations to protect aquatic life. Studies indicate that high temperatures could negatively impact the habitat of aquatic species, including the Atlantic sturgeon. This power station uses a once through cooling system to absorb heat from plant condensers. The system's old technology uses millions of gallons of river water each day resulting in hot water discharges, and it would be prudent to require a reevaluation of Section 316(a) protections. A 2004 thermal variance allowed the discharge of excessively hot water, and a study was used to show that there was not harm to the river at that time. It is noteworthy that the protected Atlantic sturgeon species was not adequately and thoroughly considered at the time of the study. A new evaluation and reconsideration of the variance would be helpful to ensure that the DEQ has the proper information to evaluate potential harm to the species.[24]

The Clean Water Act Section 316(b) (Section 316(b)) applies here and is implemented through VPDES permits, such as the Chesterfield Permit.[25] Section 316(b) regulates the cooling water intake systems in order to prevent adverse impacts. The DEQ determined that the Chesterfield facility is "subject to the §316(b) requirements because it is a point source that uses or proposes to use one or more cooling water intake structures

[20] *See,* Fact Sheet Attachments, p. 604, p. 499; *See also,* National Oceanic and Atmospheric Administration, *Atlantic Sturgeon, available at:* http://www.fisheries.noaa.gov/pr/species/fish/atlantic-sturgeon.html.
[21] NOAA Fisheries Service, *Atlantic Sturgeon Chesapeake Bay Distinct Population Segment: Endangered, available at:* http://www.nmfs.noaa.gov/pr/pdfs/species/atlanticsturgeon_chesapeakebay_dps.pdf.
[22] *Proposed Rule,* 50 CFR 226, Department of Commerce, National Oceanic and Atmospheric Administration (June 3, 2016).
[23] 33 U.S.C. § 1326(a); Fact Sheet Attachments, p. 379.
[24] Fact Sheet Attachments, p. 398; *See also,* p. 388-89, p. 420 (describing past cases of fish kills in Farrar Gut).
[25] 33 U.S.C. § 1326(b).

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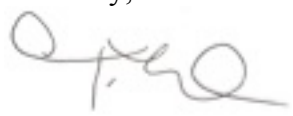
that withdraws waters of the U.S. for cooling purposes."[26] In regards to water intake systems, impingement and entrainment characteristics should be evaluated under Section 316(b) and a related permit application should be considered.[27] This facility draws millions of gallons of water into the plant each day, posing serious risks to fish and aquatic life that may be impinged or killed during intake. Aside from studying the issue, we respectfully request that technologies are implemented to minimize aquatic organism impingement. A reevaluation of Section 316(b) implications could prevent potentially destructive cooling water intake that could negatively affect listed species and critical habitats. Regarding the monitoring requirements, it would be prudent to require Dominion to both conduct a "visual inspection" and "employ remote monitoring devices during the period any cooling water intake structure is in operation" instead of choosing one of monitoring techniques.[28] The state permit regulations require federal law compliance, and more safeguards would prevent any, even accidental, takings of federally protected species and ensure compliance with Section 316(b). The DEQ should also require strong and frequent monitoring of measures to reduce any incidental takings of protected species and to protect the James River's aquatic habitat.

5) Conclusion

In sum, the Chesterfield Permit must be revised to safeguard water quality and aquatic habitats in the James River. We respectfully request that more stringent pollutant treatment be included, and that the wastewater be fully treated prior to discharge in order to negate a need for the "mixing zone." More stringent drawdown requirements would allow for conformance with similar permits and protect the integrity of the coal ash impoundments. We hope to see compliance with the new Effluent Limit Guidelines and Standards sooner then 2022. We note that more frequent heavy metal monitoring and toxicity testing is obtainable, and that such permit revisions would be prudent to ensure that water quality is protected during operations. More frequent monitoring and testing would also help protect listed aquatic species, like the Atlantic sturgeon, and critical habitats. Additional safeguards would ensure species are protected and water quality is maintained in the James River.

Thank you for your thoughtful consideration of these comments. Please do not hesitate to contact us with any questions or feedback.

Sincerely,



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[26] Fact Sheet Attachments, p. 26.
[27] Chesterfield Permit, p. 34.
[28] Chesterfield Permit, p. 35.

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